University of Gdańsk

Subject card

Subject name and code	Collaborative Project I, PG_00207083		
Field of study	Mathematical Modeling and Data Analysis		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	5.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Michał Kałapus	
	Teachers	mgr inż. Michał Kałapus Szymon Zdybel	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	60.0	0.0	0.0	60
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	60	5.0	60.0	125

Subject objectives	The aim of the course is to familiarize students with methods, tools and methodologies of working in group projects to implement projects also according to students' ideas, as well as to improve competences in teamwork skills. Selected teams will prepare to implement research and development projects prepared and supervised by companies cooperating with the university.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[MMiADM2_U09] is able to lead a team, cooperate with team members within its work, take the initiative in team management	1. has general knowledge of various programming paradigms and languages 2. can apply mathematical knowledge to formulate, analyze and solve simple IT-related tasks 3. is able to obtain information from literature, knowledge bases, the Internet and other reliable sources, integrate it, interpret it, draw conclusions and formulate opinions 4. is able to work in a team of IT specialists, is also able to manage his own time and that of others, as well as make commitments and meet deadlines 5. is able to communicate using various techniques in a professional environment and in other environments, including English and the use of IT tools can write, run and test programs in a selected programming environment designs, analyzes for correctness and computational complexity, and programs algorithms; uses basic algorithmic techniques and data structures uses accepted formats for representing various types of data depending on the situation 6. assesses the usefulness of various paradigms and related programming environments for solving various types of problems 7. is able to assess, at a basic level, the usefulness of IT methods and tools is able - in accordance with the given specification - to design and implement a simple IT system creates, evaluates and implements the test plan 8. is prepared to effectively participate in software inspections 9. has the ability to use at least one of the most popular version management systems uses design patterns	[SU1] oral statement/conversation/ discussion [SU8] observation of student's independent or team work
	[MMiADM2_W06] knows and understands the general principles of creating and developing forms of individual entrepreneurship and the basic concepts and principles of industrial property protection, copyright and the management of intellectual property resources.	1. knows the basic methods of designing, analyzing and programming algorithms, knows basic programming structures and data structures has basic knowledge of software engineering, design, tools and software development environments, IT project life cycle, software specifications, validation and verification, software maintenance knows the basic principles of occupational health and safety in the IT profession 2. has knowledge of network technologies, including basic communication protocols, security and construction of network applications	[SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task

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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[MMiADM2_K04] is ready to take care of the achievements and traditions of professions related to analytical modeling and data analysis by thinking and acting in an entrepreneurial manner, improving his/her competences and popularizing knowledge</td><td>1. is able to work in a team of IT specialists, manage their time and make commitments and meet deadlines, communicate using various techniques, including the use of dedicated tools

2. has structured, theoretically based general knowledge in the field of algorithms and data structures, formal languages, automata theory and computational complexity</td><td>[SK1] oral statement/conversation/ discussion
[SK8] observation of student's independent or team work</td></tr>
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<tr><td>Subject contents</td><td>1.Work on the design and manufacturing processes 2. Popular project management methodologies 3. Tools supporting group work on the project 4. Reporting on work progress 5. Regularly identifying and implementing improvements to the way we work 6. Presentation of the final results</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
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<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Project</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>1. J. Philips: Zarządzanie projektami IT. Gliwice. Helion. 2011.
2. R.K. Wysocki: Effective Project Management: Traditional. Agile, Extreme. Indianapolis. 2009.</td></tr>
<tr><td>Supplementary literature</td><td>Scientific papers in the scope</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Teamwork on a given topic</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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